Managed Ethernet Switches

Red Lion's rugged, reliable managed industrial Ethernet switches support industry-standard applications. These hardened switches are ideally suited for harsh industrial environments where real-time performance under extreme operating conditions is required. Built-in redundancy and network management ensure communications stay up and running while providing tools for monitoring and tracking.

> Layer 2 managed industrial Ethernet switches
> Rugged enclosure supports deployment in extreme environments
> Powerful network management
> Gigabit copper, fiber and SFP options


Managed Ethernet Switch Comparison

| SWITCH MODELS | HAZARDOUS LOCATION | | MARITIME | SUBSTATION | RAIL | MAX PORTS | NETWORK REDUNDANCY | CIP MESSAGING | 16KV SURGE SUPPRESSION | MOUNTING |
	UL CLASS 1, DIVISION 2	ATEX	ABS	IEC 61850 IEEE 1613	EN 50155					
NT24k® Managed	X		X		O	24	N-Ring™/N-Link™/ RSTP	X	X	DR & RM
700 Managed	X	O	X	O	O	16	N-Ring/N-Link/ RSTP	X	X	DR
7000 Managed	X	O	X	O	O	26	N-Ring/N-Link/ RSTP	X	X	DR & RM
SLX Managed	X		X			18	Real-Time Ring/ RSTP			DR & PM
EL Managed	X	X				26	Real-Time Ring/ RSTP			PM
Legend:	X - All models		O - Some models		DR - DIN-rail		PM - Panel Mount		RM - Rackmount	

Network Healing Technologies

N-Ring® is a proprietary high-speed ring technology that provides consistent healing times of ~20 milliseconds (ms) for up to 250 switches. **N-Link®** provides the ability to link two N-Rings for network redundancy.

Real-Time Ring is a highly-reliable, proprietary ring technology from Sixnet offering 30 ms healing time plus 5 ms per hop.

Rapid Spanning Tree Protocol (RSTP) IEEE 802.1w is an industry standard protocol providing ~2-3 second recovery time and offers a solution for multi-vendor Ethernet networks.
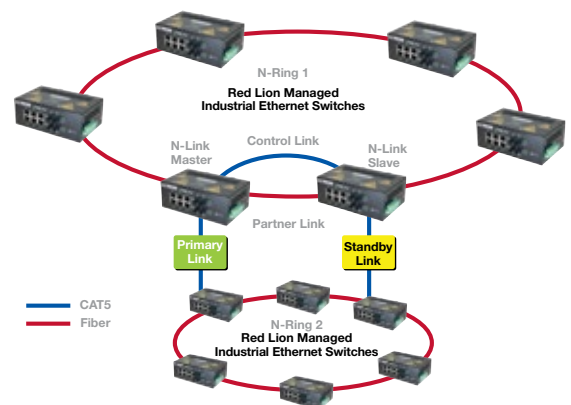
NT24k® Modular Managed Gigabit Ethernet Switches

> Hot swappable modules with Fast Ethernet and Gigabit configurations

> Robust remote monitoring with N-View™ monitoring technology

> Smart plug-and-play operation

> DIN-rail and rackmount options

> Extreme environment specifications

MODEL NUMBER	TYPE	POWER OPTIONS	TOTAL PORTS	FAST ETHERNET	GIGABIT ETHERNET				OPERATING TEMP
				100 FIBER	10/100/1000 COPPER	1000 FIBER	GIG SFP		
NT24k-DC1	Managed	Single 18-49VDC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40˚ to 85˚C
NT24k-DC2	Managed	Dual 18-49VDC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40˚ to 85˚C
NT24k-AC1	Managed	Single 90-264VAC/ 90-300VDC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40˚ to 85˚C
NT24k-AC2	Managed	Dual 90-264VAC/ 90-300VDC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40˚ to 85˚C
NT24k-AC1-DC1	Managed	Single 90-264VAC/ 90-300VDC & 18-49VDC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40˚ to 85˚C
NT24k-DR16-DC	Managed	Redundant 18-49VDC	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16	-40˚ to 75˚C
NT24k-DR16-AC	Managed	90-264VAC/ 90-300VDC	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16	-40˚ to 75˚C
NT24k-DR24-DC	Managed	Redundant 18-49VDC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40˚ to 75˚C
NT24k-DR24-AC	Managed	90-264VAC/ 90-300VDC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40˚ to 75˚C

SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately.
Low-voltage power supplies feature redundant power inputs.

Compact NT24k Managed Switches

> Fast Ethernet, Gigabit, fiber and SFP models

> Robust remote monitoring with N-View monitoring technology

> Smart plug-and-play operation

> Extreme environment specifications

MODEL NUMBER	TYPE	TOTAL PORTS	FAST ETHERNET	GIGABIT ETHERNET			MOUNTING & CASE	OPERATING TEMP
			100 FIBER	10/100/1000 COPPER	1000 FIBER	GIG SFP		
NT24k-8TX	Managed	8	-	8	-	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24K-10FX2	Managed	10	2	8	-	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-10GX2	Managed	10	-	8	2	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-11FX3	Managed	11	3	8	-	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-11GX3	Managed	11	-	8	3	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-12FX4	Managed	12	4	8	-	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-12GX4	Managed	12	-	8	4	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-12SFP-DM4	Managed	12	-	8	-	4	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-14FX6	Managed	14	6	8	-	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-14GX6	Managed	14	-	8	6	-	DIN-Rail – Metal	-40˚ to 85˚C
NT24k-16TX	Managed	16	-	16	-	-	DIN-Rail – Metal	-40˚ to 85˚C

SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately.
Multimode and singlemode options available. FX models available with SC or ST connectors; GX models available with SC style connectors.

700 & 7000 Managed Ethernet Switches

> Plug-and-play deployment with IGMP auto-configuration

> N-View monitoring provides real-time switch diagnostics

> Ideally suited to use as N-Ring or N-Link manager

| MODEL NUMBER | TYPE | TOTAL PORTS | FAST ETHERNET | | GIGABIT ETHERNET | | MOUNTING & CASE | OPERATING TEMP |
			10/100 COPPER	100 FIBER	10/100/ 1000 COPPER	GIG SFP		
708TX	Managed	8	8	-	-	-	DIN-Rail – Metal	-40˚ to 85˚C
708FX2	Managed	8	6	2	-	-	DIN-Rail – Metal	-40˚ to 85˚C
709FX*	Managed	9	8	1	-	-	DIN-Rail – Metal	-40˚ to 70˚C
710FX2*	Managed	10	8	2	-	-	DIN-Rail – Metal	-40˚ to 70˚C
711FX3*	Managed	11	8	3	-	-	DIN-Rail – Metal	-40˚ to 70˚C
712FX4*	Managed	12	8	4	-	-	DIN-Rail – Metal	-40˚ to 70˚C
714FX6	Managed	14	8	6	-	-	DIN-Rail – Metal	-40˚ to 70˚C
716TX	Managed	16	16	-	-	-	DIN-Rail – Metal	-40˚ to 70˚C
716FX2	Managed	16	14	2	-	-	DIN-Rail – Metal	-40˚ to 70˚C
7010TX	Managed	10	8	-	-	Up to 2	DIN-Rail – Metal	-40˚ to 70˚C
7012FX2*	Managed	12	8	2	-	Up to 2	DIN-Rail – Metal	-40˚ to 70˚C
7018TX	Managed	18	16	-	-	Up to 2	DIN-Rail – Metal	-40˚ to 70˚C
7018FX2	Managed	18	14	2	-	Up to 2	DIN-Rail – Metal	-40˚ to 70˚C
7026TX	Managed	26	24	-	-	Up to 2	Rackmount – Metal	-40˚ to 80˚C
7026TX-AC	Managed	26	24	-	-	Up to 2	Rackmount – Metal	-40˚ to 80˚C
7506GX2 (All Gigabit)	Managed	6	-	-	4	Up to 2	DIN-Rail – Metal	-40˚ to 80˚C
7900 (Modular)	Managed	26	Up to 24	Up to 16	-	Up to 2	DIN-Rail – Metal	-20˚ to 70˚C

KEMA approved IEC 61850-3 and IEEE 1613 HV models available.
Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.
SFP ports support 1000Base SFP transceivers, which are sold separately.

SLX Managed Ethernet Switches

> Versatile networking solutions with copper and fiber models

> Real-time Modbus over Ethernet monitoring

> Fast Ethernet and Gigabit port options

> DIN-rail or panel mounting options

| MODEL NUMBER | TYPE | TOTAL PORTS | FAST ETHERNET | | GIGABIT ETHERNET | | MOUNTING & CASE | OPERATING TEMP |
			10/100 COPPER	100 FIBER	10/100/1000 COPPER	GIG SFP		
SLX-5MS-1	Managed	5	5	-	-	-	DIN-Rail – Metal	-40˚ to 75˚C
SLX-5MS-4/5	Managed	5	3	2	-	-	DIN-Rail – Metal	-40˚ to 75˚C
SLX-5MS-MDM-1	Managed	5	5	-	-	-	DIN-Rail – Metal	-40˚ to 75˚C
SLX-8MS-1	Managed	8	8	-	-	-	DIN-Rail – Metal	-40˚ to 75˚C
SLX-8MS-4/5/8/9	Managed	8	4 or 6	2 or 4	-	-	DIN-Rail – Metal	-40˚ to 75˚C
SLX-8MG-1 (All Gigabit)	Managed	8	-	-	8	Up to 4 Combo Ports	DIN-Rail – Metal	-40˚ to 75˚C
SLX-10MG-1	Managed	10	7	-	3	Up to 2 Combo Ports	DIN-Rail – Metal	-40˚ to 75˚C
SLX-16MS-1	Managed	16	16	-	-	-	DIN-Rail – Metal	-40˚ to 75˚C
SLX-18MG-1	Managed	18	16	-	2	Up to 2 Combo Ports	DIN-Rail – Metal	-40˚ to 75˚C

Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.
SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately.

Advanced Managed Ethernet Switches

Red Lion's advanced managed industrial Ethernet switches offer powerful enterprise-class networking with security options that prevent unauthorized access and enable policy enforcement. These powerful switches provide QoS traffic classification and sophisticated multicast controls, reducing traffic and ensuring real-time message delivery. The flexible industrial design is built to support the harshest environments.

EL Advanced Management Ethernet Switches

> Layer 3 functionality with enterprise class networking features
> Hardened enclosure for harsh industrial applications
> Up to 10G ports for high-bandwidth backhaul
> Advanced security control

| MODEL NUMBER | TYPE | POWER OPTIONS | TOTAL PORTS | GIGABIT ETHERNET | | 10 GIG | OPERATING TEMP |
				10/100/1000 COPPER	GIGABIT SFP		
EL326-DO-1*	Managed – Layer 3	Single 18-59 VDC	26	24	Up to 4 SFP (4 Combo)	Up to 2	-35˚ to 75˚C
EL326-DD-1*	Managed – Layer 3	Dual 18-59 VDC	26	24	Up to 4 SFP (4 Combo)	Up to 2	-35˚ to 75˚C
EL326-AO-1*	Managed – Layer 3	Single 85-264 VAC or 90-300 VDC	26	24	Up to 4 SFP (4 Combo)	Up to 2	-35˚ to 80˚C
EL326-AA-1*	Managed – Layer 3	Dual 85-264 VAC or 90-300 VDC	26	24	Up to 4 SFP (4 Combo)	Up to 2	-35˚ to 80˚C

Rackmount - Metal
SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately.

Monitored Ethernet Switches

Red Lion's monitored industrial Ethernet switches provide network performance monitoring with Modbus or N-View monitoring technology. These rugged, compact switches are built for mission-critical applications and provide cost-effective network monitoring options that can be integrated directly into any industrial control system.

> Layer 2 unmanaged industrial switches
> Network performance monitoring via Modbus or N-View technology
> Versatile networking solutions
> Copper and fiber port configurations
> Hardened for the toughest applications

Monitored Ethernet Switch Comparison

| SWITCH MODELS | HAZARDOUS LOCATION | | MARITIME | SUBSTATION | | | | | |
	UL CLASS 1, DIVISION 2	ATEX	ABS	IEEE 1613	MONITORING	ADVANCED FEATURES	16KV SURGE SUPPRESSION	REDUNDANT POWER	HOUSING MATERIAL
500-A Process Control	X	X	X	X	N-View	Auto IGMP	X	X	Metal
500-N Monitored	X	X	X	X	N-View		X	X	Metal
300-N Monitored	X	X	X	O	N-View		X	X	Metal
SLX Monitored	X	X			Modbus	RTR		X	Metal
SL Monitored	X	X			Modbus	RTR		X	Lexan
Legend:	X - All models		O - Some models		RTR - Real-Time Ring				

500-A Monitored Process Control Switches

> Advanced management features include IGMP snooping, VLAN, QoS and Port Mirroring
> N-View monitoring provides real-time switch diagnostics
> Rugged industrial DIN-rail and rackmount options

| MODEL NUMBER | TYPE | TOTAL PORTS | FAST ETHERNET | | MOUNTING & CASE | OPERATING TEMP |
			10/100 COPPER	100 FIBER		
508TX-A	Process Control	8	8	-	DIN-Rail – Metal	-40˚ to 85˚C
508FX2-A	Process Control	8	6	2	DIN-Rail – Metal	-40˚ to 85˚C
509FX-A	Process Control	9	8	1	DIN-Rail – Metal	-40˚ to 85˚C
516TX-A	Process Control	16	16	-	DIN-Rail – Metal	-40˚ to 85˚C
517FX-A	Process Control	17	16	1	DIN-Rail – Metal	-40˚ to 85˚C
524TX-A	Process Control	24	24	-	Rackmount – Metal	-40˚ to 85˚C
526FX2-A	Process Control	26	24	2	Rackmount – Metal	-40˚ to 85˚C

Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.

300 & 500 Monitored Fast Ethernet Switches

> High reliability in industrial applications

> Plug-and-play operation

> N-View monitoring provides real-time switch diagnostics

	MODEL NUMBER	TYPE	TOTAL PORTS	FAST ETHERNET		MOUNTING & CASE	OPERATING TEMP
				10/100 COPPER	100 FIBER		
3 0 0	302MC-N	Monitored	2	1	1	DIN-Rail – Metal	-40° to 70°C
	304TX-N	Monitored	4	4	-	DIN-Rail – Metal	-40° to 70°C
	305FX-N	Monitored	5	4	1	DIN-Rail – Metal	-40° to 70°C
	306TX-N	Monitored	6	6	-	DIN-Rail – Metal	-40° to 70°C
	306FX2-N	Monitored	6	4	2	DIN-Rail – Metal	-40° to 70°C
	308TX-N	Monitored	8	8	-	DIN-Rail – Metal	-40° to 70°C
	308FX2-N	Monitored	8	6	2	DIN-Rail – Metal	-40° to 85°C
	309FX-N	Monitored	9	8	1	DIN-Rail – Metal	-40° to 85°C
	316TX-N	Monitored	16	16	-	DIN-Rail – Metal	-40° to 85°C
	317FX-N	Monitored	17	16	1	DIN-Rail – Metal	-40° to 85°C
5 0 0	508TX-N	Monitored	8	8	-	DIN-Rail – Metal	-40° to 85°C
	508FX2-N	Monitored	8	6	2	DIN-Rail – Metal	-40° to 85°C
	509FX-N	Monitored	9	8	1	DIN-Rail – Metal	-40° to 85°C
	516TX-N	Monitored	16	16	-	DIN-Rail – Metal	-40° to 85°C
	517FX-N	Monitored	17	16	1	DIN-Rail – Metal	-40° to 85°C
	524TX-N	Monitored	24	24	-	Rackmount – Metal	-40° to 85°C
	526FX2-N	Monitored	26	24	2	Rackmount – Metal	-40° to 85°C

Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.

SL & SLX Fast Ethernet Ring Switches

> Fast, fault-tolerant Real-Time Ring network redundancy

> Pre-configured for plug-and-play ring functionality

> Redundant power inputs

> Real-time Modbus over Ethernet monitoring

MODEL NUMBER	TYPE	TOTAL PORTS	FAST ETHERNET		MOUNTING & CASE	OPERATING TEMP
			10/100 COPPER	100 FIBER		
SL-6RS-1	Ring	6	6	-	DIN-Rail – Lexan	-40° to 60°C
SL-6RS-4/5	Ring	6	4	2	DIN-Rail – Lexan	-40° to 60°C
SLX-6RS-1	Ring	6	6	-	DIN-Rail – Metal	-40° to 85°C
SLX-6RS-4/5	Ring	6	4	2	DIN-Rail – Metal	-40° to 85°C

Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.

Unmanaged Ethernet Switches

Red Lion's industrial unmanaged Ethernet switches offer powerful network performance with plug-and-play functionality. With an endless range of port options, these unmanaged switches are set to tackle the demands of industrial data acquisition, control and Ethernet I/O applications.

> Compact IEEE 802.3 Layer 2 industrial switches
> Automatic speed, duplex and cable sensing
> Designed for use in mission-critical applications
> Plug-and-play functionality

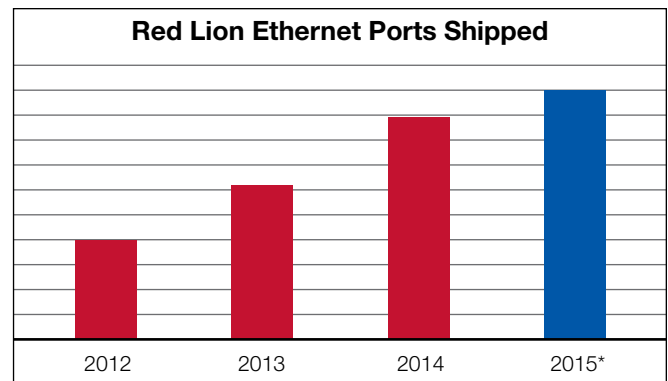## Unmanaged Ethernet Switch Comparison

| SWITCH MODELS | HAZARDOUS LOCATION | | MARITIME | | SUBSTATION | RAIL | TRAFFIC | JUMBO FRAME | M12 CONNECTORS | HOUSING MATERIAL |
	UL CLASS 1, DIVISION 2	ATEX	ABS	DNV	IEEE 1613	EN 50155	NEMA TS1/TS2			
100 Unmanaged	X	X	X	O		O			O	Metal
300 Unmanaged	X	X	X		O					Metal
500 Unmanaged	X	X	X		X					Metal
1000 Unmanaged	X	O	X	O	O	X	O	O		Metal
SLX Unmanaged	X	X	X					O		Metal
SL Unmanaged	X	X	X							Lexan
Legend:	X - All models		O - Some models							

Industrial Ethernet & the IIoT

Building on the foundation of the Internet of Things, the Industrial Internet of Things (IIoT) promises significant returns for businesses looking to better connect and share data between disparate devices. With potential returns achieved through greater efficiency, process improvements and preventative maintenance, Red Lion offers an array of rugged, reliable industrial Ethernet switches to meet varying IIoT requirements. And the number of Ethernet ports shipped continues to grow year over year as more and more organizations turn to Red Lion.

Red Lion Ethernet Ports Shipped

2012   2013   2014   2015*

*2015 data is forecasted

100, 300 & 500 Unmanaged Fast Ethernet Switches

> Compact, rugged, all-metal enclosure

> Wide operating temperature range

> Redundant power inputs

| MODEL NUMBER | TYPE | TOTAL PORTS | FAST ETHERNET | | MOUNTING & CASE | OPERATING TEMP |
			10/100 COPPER	100 FIBER		
100 102MC	Unmanaged	2	1	1	DIN-Rail – Metal	-40° to 80℃
104TX	Unmanaged	4	4	-	DIN-Rail – Metal	-40° to 80℃
105TX	Unmanaged	5	5	-	DIN-Rail – Metal	-40° to 80℃
105TX-SL	Unmanaged	5	5	-	DIN-Rail – Metal	-40° to 85℃
105FX	Unmanaged	5	4	1	DIN-Rail – Metal	-40° to 70℃
106FX2	Unmanaged	6	4	2	DIN-Rail – Metal	-40° to 70℃
108TX	Unmanaged	8	8	-	DIN-Rail – Metal	-40° to 70℃
110FX2	Unmanaged	10	8	2	DIN-Rail – Metal	-40° to 80℃
111FX3	Unmanaged	11	8	3	DIN-Rail – Metal	-40° to 80℃
112FX4	Unmanaged	12	8	4	DIN-Rail – Metal	-40° to 80℃
114FX6	Unmanaged	14	8	6	DIN-Rail – Metal	-40° to 80℃
116TX	Unmanaged	16	16	-	DIN-Rail – Metal	-40° to 85℃
300 302MC	Unmanaged	2	1	1	DIN-Rail – Metal	-40° to 70℃
304TX	Unmanaged	4	4	-	DIN-Rail – Metal	-40° to 70℃
305FX	Unmanaged	5	4	1	DIN-Rail – Metal	-40° to 70℃
306TX	Unmanaged	6	6	-	DIN-Rail – Metal	-40° to 70℃
306FX2	Unmanaged	6	4	2	DIN-Rail – Metal	-40° to 70℃
308TX	Unmanaged	8	8	-	DIN-Rail – Metal	-40° to 70℃
308FX2	Unmanaged	8	6	2	DIN-Rail – Metal	-40° to 85℃
309FX	Unmanaged	9	8	1	DIN-Rail – Metal	-40° to 85℃
316TX	Unmanaged	16	16	-	DIN-Rail – Metal	-40° to 85℃
317FX	Unmanaged	17	16	1	DIN-Rail – Metal	-40° to 85℃
500 508TX	Unmanaged	8	8	-	DIN-Rail – Metal	-40° to 85℃
508FX2	Unmanaged	8	6	2	DIN-Rail – Metal	-40° to 85℃
509FX	Unmanaged	9	8	1	DIN-Rail – Metal	-40° to 85℃
516TX	Unmanaged	16	16	-	DIN-Rail – Metal	-40° to 85℃
517FX	Unmanaged	17	16	1	DIN-Rail – Metal	-40° to 85℃
524TX	Unmanaged	24	24	-	Rackmount – Metal	-40° to 85℃
526FX2	Unmanaged	26	24	2	Rackmount – Metal	-40° to 85℃

Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.

1000 & SLX Unmanaged Gigabit Ethernet Switches

> Plug-and-play unmanaged operation

> Gigabit-speed port options

> Compact, rugged, all-metal enclosures

MODEL NUMBER	TYPE	TOTAL PORTS	GIGABIT ETHERNET		MOUNTING & CASE	OPERATING TEMP
			10/100/1000 COPPER	GIG SFP		
1002MC	Unmanaged	2	1	1 SFP	DIN-Rail – Metal	-40˚ to 85˚C
1003GX2	Unmanaged	3	1	2 SFP	DIN-Rail – Metal	-40˚ to 85˚C
1005TX	Unmanaged	5	5	-	DIN-Rail – Metal	-40˚ to 85˚C
1008TX	Unmanaged	8	8	-	DIN-Rail – Metal	-40˚ to 85˚C
SLX-3EG-1SFP	Unmanaged	3	2	1 SFP	DIN-Rail – Metal	-40˚ to 85˚C
SLX-5EG-1	Unmanaged	5	5 (4 PoE)	-	DIN-Rail – Metal	-40˚ to 85˚C
SLX-5EG-2SFP	Unmanaged	5	3 PoE	2 SFP	DIN-Rail – Metal	-40˚ to 85˚C

SFP transceivers sold separately.

## SL & SLX Unmanaged Fast Ethernet Switches

> Mixed copper and fiber port options

> Compact lightweight Lexan or all-metal housing

> Redundant power inputs

	MODEL NUMBER	TYPE	TOTAL PORTS	FAST ETHERNET		MOUNTING & CASE	OPERATING TEMP
				10/100 COPPER	100 FIBER		
SL	SL-2ES-2/3	Unmanaged	2	1	1	DIN-Rail – Lexan	-10˚ to 60˚C
	SL-5ES-1	Unmanaged	5	5	-	DIN-Rail – Lexan	-40˚ to 60˚C
	SL-5ES-2/3	Unmanaged	5	4	1	DIN-Rail – Lexan	-40˚ to 60˚C
	SL-6ES-4/5	Unmanaged	6	4	2	DIN-Rail – Lexan	-40˚ to 60˚C
	SL-8ES-1	Unmanaged	8	8	-	DIN-Rail – Lexan	-40˚ to 60˚C
	SL-9ES-2/3	Unmanaged	9	8	1	DIN-Rail – Lexan	-40˚ to 60˚C
SLX	SLX-3ES-2/3	Unmanaged	3	2	1	DIN-Rail – Metal	-40˚ to 85˚C
	SLX-5ES-1	Unmanaged	5	5	-	DIN-Rail – Metal	-40˚ to 85˚C
	SLX-5ES-2/3	Unmanaged	5	4	1	DIN-Rail – Metal	-40˚ to 85˚C
	SLX-6ES-4/5	Unmanaged	6	4	2	DIN-Rail – Metal	-40˚ to 85˚C
	SLX-8ES-1	Unmanaged	8	8	-	DIN-Rail – Metal	-40˚ to 85˚C
	SLX-8ES-6/7	Unmanaged	8	5	3	DIN-Rail – Metal	-40˚ to 85˚C
	SLX-9ES-2/3	Unmanaged	9	8	1	DIN-Rail – Metal	-40˚ to 85˚C

Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.

Power over Ethernet (PoE)

001110000101 **DATA**

POWER

PoE
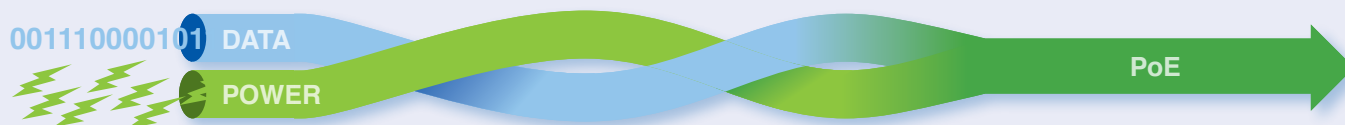
Power over Ethernet (PoE) is a method to transmit power and data, up to 100 meters, over a single Ethernet (CAT5e/CAT6/CAT6a) cable. The benefits of PoE include reduced wiring and installation costs and greater flexibility of device placement as equipment no longer needs to be located near power outlets. Red Lion offers a wide range of PoE products including Ethernet switches, midspan injectors and PoE splitters, that support industry-standard IEEE 802.3af (PoE) and/or IEEE 802.3at (PoE+).

PoE Details

|	POE (IEEE 802.3af)	POE+ (IEEE 802.3at)
Max power delivered by PSE	15.40 W	34.20 W
Power Available at PD	12.95 W	25.5 W
Voltage Output Range	44-57 VDC	50-57 VDC
Max Output Current	350 mA	600 mA
Power Management	Three levels	Four levels

Common PoE Terminology

Power Sourcing Equipment (PSE) is any device that provides or injects power onto a copper Category Ethernet cable.

Powered Device (PD) is a device such as a Wi-Fi radio, camera, display or cellular router that is powered by PoE from a PSE device.
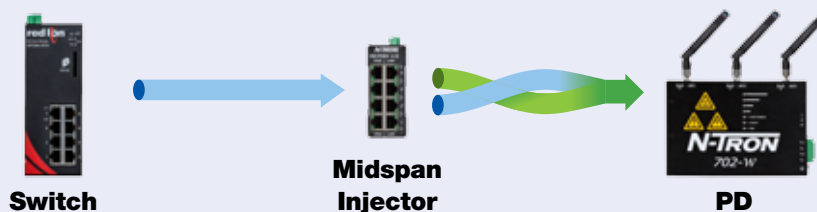
Endspan Switch

An Ethernet switch that combines data and power onto an Ethernet cable for PoE enabled devices.
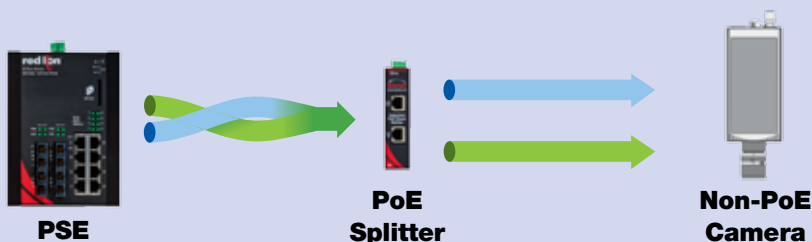
PSE

PD
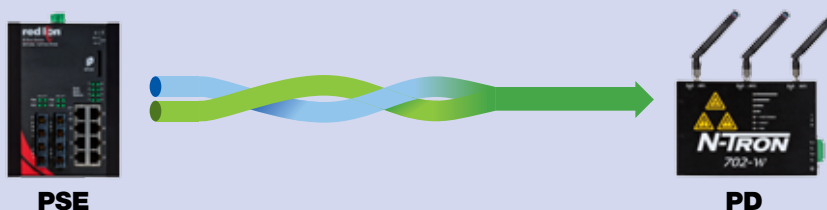
Midspan Injector

An intermediary device that injects PoE power onto an Ethernet cable for PoE enabled devices.

Switch

Midspan Injector

PD

PoE Splitter

A PD device that removes PoE power from an Ethernet cable to power non-PoE enabled equipment.

PSE

PoE Splitter

Non-PoE Camera

Industrial PoE Solutions

Red Lion's industrial PoE solutions are designed to transmit power and data over an Ethernet network. PoE networks eliminate the need for running separate wires for power and are ideal in installations with devices such as IP surveillance cameras, wireless access points, IP phones and other PoE-enabled devices. These industrial PoE devices offer a compact, rugged design for harsh, remote locations.

> Compact, rugged design
> Switches, injectors and splitters
> Transmit power and data over Ethernet networks

Compact NT24k-POE Managed PoE Switches

> IEEE 802.3af/at PoE+ on all copper ports
> Redundant 22 to 49 VDC power inputs with power boost circuit to provide 240 watts of PoE+ output
> All copper ports support 10/100/1000Base speeds and IEEE 802.3af/at PoE+ output
> Available with FX or GX fiber ports, or SFP ports for optional SFP transceivers
> Extreme environment specifications

MODEL NUMBER	TYPE	TOTAL PORTS	FAST ETHERNET	GIGABIT ETHERNET			MOUNTING & CASE	OPERATING TEMP
			100 FIBER	10/100/1000 COPPER	1000 FIBER	GIG SFP		
NT24K-8TX-POE	Managed	8	-	8 (8 PoE+)	-	-	DIN-Rail – Metal	-40° to 80°C
NT24K-10FX2-POE	Managed	10	2	8 (8 PoE+)	-	-	DIN-Rail – Metal	-40° to 80°C
NT24k-10GX2-POE	Managed	10	-	8 (8 PoE+)	2	-	DIN-Rail – Metal	-40° to 80°C
NT24k-11FX3-POE	Managed	11	3	8 (8 PoE+)	-	-	DIN-Rail – Metal	-40° to 80°C
NT24k-11GX3-POE	Managed	11	-	8 (8 PoE+)	3	-	DIN-Rail – Metal	-40° to 80°C
NT24k-12FX4-POE	Managed	12	4	8 (8 PoE+)	-	-	DIN-Rail – Metal	-40° to 80°C
NT24k-12GX4-POE	Managed	12	-	8 (8 PoE+)	4	-	DIN-Rail – Metal	-40° to 80°C
NT24k-12SFP-DM4-POE	Managed	12	-	8 (8 PoE+)	-	4	DIN-Rail – Metal	-40° to 80°C
NT24k-14FX6-POE	Managed	14	6	8 (8 PoE+)	-	-	DIN-Rail – Metal	-40° to 80°C
NT24k-14GX6-POE	Managed	14	-	8 (8 PoE+)	6	-	DIN-Rail – Metal	-40° to 80°C

SFP ports support 100Base or 1000Base SFP transceivers, sold separately.
Multimode and singlemode options available. FX models available with SC or ST connectors; GX models available with SC style connectors.

SLX & EB PoE Switches, Injectors & Splitters

> IEEE 802.3af PoE support

> Easily integrates PoE equipment into existing networks

> Seamless plug-and-play operation

MODEL NUMBER	TYPE	TOTAL PORTS	FAST ETHERNET		GIGABIT ETHERNET		MOUNTING & CASE	OPERATING TEMP
			10/100 COPPER	100 FIBER	10/100/1000 COPPER	GIG SFP		
SLX-5EG-1	Unmanaged Switch	5	-	-	5 (4 PoE)	-	DIN-Rail – Metal	-40° to 85°C
SLX-5EG-2SFP	Unmanaged Switch	5	-	-	3 PoE	2 SFP	DIN-Rail – Metal	-40° to 85°C
EB-5ES-PSE-1	Unmanaged Switch	5	5 (4 PoE)	-	-	-	DIN-Rail – Lexan	-40° to 75°C
EB-PSE-24V-1 (PoE Midspan Injector)	Midspan Injector	2	1 (1 PoE)	-	-	-	DIN-Rail – Lexan	-40° to 75°C
EB-PSE-48V-2 (PoE Midspan Injector)	Midspan Injector	4	2 (2 PoE)	-	-	-	DIN-Rail – Lexan	-40° to 75°C
EB-PD-24V-1 (PoE Splitter)	PoE Splitter	2	2 (1 PoE)	-	-	-	DIN-Rail – Lexan	-40° to 75°C

SFP ports support 100Base or 1000Base SFP transceivers, sold separately. Fiber models available with SC or ST fiber connectors.

100 & 1000 PoE Switches, Injectors & Splitters

> IEEE 802.3af PoE support

> Rugged, all-metal enclosures

> Easy plug-and-play operation

MODEL NUMBER	TYPE	TOTAL PORTS	FAST ETHERNET		GIGABIT ETHERNET	POWER INPUT	MOUNTING & CASE	OPERATING TEMP
			10/100 COPPER	100 FIBER	10/100/1000 COPPER			
105TX-POE	Unmanaged Switch	5	5 (4 PoE)	-	-	46-49 VDC	DIN-Rail – Metal	-40° to 85°C
100-POE4	Midspan Injector	8	4 (4 PoE)	-	-	46-49 VDC	DIN-Rail – Metal	-40° to 85°C
105FX-POE	Unmanaged Switch	5	4 PoE	1	-	46-49 VDC	DIN-Rail – Metal	-40° to 85°C
100-POE-SPL	PoE Splitter	2	2 (1 PoE)	-	-	46-54 VDC	DIN-Rail – Metal	-40° to 85°C
1000-POE+	Midspan Injector	2	-	-	1(1 PoE+)*	10-30 VDC	DIN-Rail – Metal	-40° to 80°C

Redundant 10 to 30 VDC power inputs with power boost circuit to provide IEEE 802.3at output.

PoE Switch Comparison

SWITCH MODELS	HAZARDOUS LOCATION	MARITIME	RAIL	TRAFFIC	MONITORING	NETWORK REDUNDANCY	POE STANDARD	POWER INPUT	MOUNTING
	UL CLASS 1, DIVISION 2	ABS	EN 50155	NEMA TS1/TS2					
NT24k	X	X	O		N-View/SNMP	N-Ring/N-Link/RSTP	PoE+	22-49 VDC	DR
1000-POE+	X	X	X	O			PoE+	10-30 VDC	DR
SLX	X	X			X		PoE	45-56 VDC	DR
100-POE	X	X	O		O		PoE	46-54 VDC*	DR
Legend:	X - All models		O - Some models		DR - DIN-rail		PM - Panel Mount		RSTP - Rapid Spanning Tree Protocol

*Model specific